

SWARNANDHRA

COLLEGE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OFCIVIL ENGINEERING

TEACHING PLAN

	urse	Course Title	Semes	ter	Branches	1	Contact Fiods/We	Academic Year	Date of commencem ent of Semester
20CE.	5T02	DESIGN& DRAWING OF REINFORCED CONCRETE STRUCTURES (R20)	v		Civil Engineering		5	2023-24	05-06-2024
COU	RSE	OUTCOMES: Upo					ents are ab	le to	
1		Work on different	types of	desi	gn philosophies.	K2			
2		Carryout analysis	and desig	gn of	flexural membe	ers an	d detailing	. K3	
3		Design structures	subjected	l to sl	near, bond and t	orsio	n. K3		
4		Design different ty	pe of co	mpre	ssion members	and fo	ootings. K	3	
5		Design of different							
UNIT	OutComes / Top		Topic No.	T		Text Book Contact / Reference Hour		t Delivery Method	
			1.1	Re an co Ac dis rei	troduction to einforced concre d reinforced ncrete structure dvantages and sadvantages of nforced concret	s,	T1,R2	1	
			1.2	0400000	operties of nerete and steel		T1,R2	1	Chalk
I	d	CO1: Work on lifferent types of sign philosophies. K2	1.3	we cood han star live eart Elas desi mod	Working stress method: Design codes and handbooks, loading standards – Dead, live, wind and earthquake loads, Elastic theory: design constants, modular ratio		T1,R2 1		&Talk, PPT, Tutorial, Active learning
			1.4	and	ral axis depth moment of tance for		T1,R2	1	

1			Indonesia medan		
1 1			balanced, under- reinforced and over-		
			reinforced sections.		
	-	VALUE OF THE REAL PROPERTY OF THE PROPERTY OF THE REAL PROPERTY OF THE PROPERTY OF THE PROPER	Design of singly	T1,R2	1
1 1		1.5	reinforced beams.	11,102	
1 1			Design of doubly	T1,R2	1
1 1		1.6	reinforced beams.	7.7,	
1 1			Limit State Design:		
1 1		1.7	Concepts of limit	T1,R2	1
1 1		1.7	state design, Basic	1. - 1 940 2. (1997)	
1 1			statistical principles		-
1 1		1.8	Characteristic loads.	T1,R2	1
1 1			Characteristic		
1 1		1.9	strength - Partial	T1,R2	1
1 1			load and safety		
			factors.		
			Representative		
	72		stress-strain curves		
	1	.10	for cold worked	T1,R2	1
	1		deformed bars and	1	
	-		mild steel bars.		
	1.	11	Design of singly	T1,R2	1
- 1		\rightarrow	reinforced beams.		
	1.1	12	Design of doubly reinforced beams.	T1,R2	1
			remoteed beams.		
			Limit state analysis	Total	12
1	2.1	1	and design of singly	ma na	2000
1		reinforced sections	1		
-1		- i	Effective		
1	2.2		lepth, Moment of	Ma Caraca Caraca Caraca	
			Resistance.	T1,R2	1
1					
1		1	Minimum depth for		
1	2.3	4	given		
0.0		D	apacity,Limiting		
Co2: Carryout		- 1	ercentage of Steel		
analysis and	24		Immum Tension		
design of flexural	2.4	K	cinforcement Mou!		
			um Flexural Steel		
		10	esign Problems on		
detailing, K3	2.5	si	ngly reinforced	8	
1		be	ams		
1		Li	mit state		
	1	1	mit state analysis		
		fin	G DESIGN OF L.		
	2.6	4411	design of doubly		
	2.6	rei	d design of doubly	T1,R2	1
	2.6	rei	tions.	T1,R2	1
		rei sec	etions.	T1,R2	1,
	2.6	rei sec	etions.	T1,R2	1
		rei sec De doi	etions. sign Problems on		1
		rei sec De doi bea	etions. sign Problems on ably reinforced	T1,R2	1
	2.7	rei sec De doi bea Lin	sign Problems on obly reinforced		1
		rei sec De dou bea Lin	etions. sign Problems on ably reinforced ans hit state analysis design of T	T1,R2	1
	2.7	rei sec De dou bea Lin	etions. sign Problems on ably reinforced		1

			Feet with a f			
			Effective width of	T1,R2	1	
		2.10	flange -Behaviour-	11,10		
			Analysis and Design		1	1
			Limit state analysis	T1 D2	1	
			and design of L-	T1,R2	1	
			sections	!	-	-
			Effective width of			
		2.11	flange -Behaviour-	T1,R2	1	
			Analysis and Design		1	-
			Design of Flanged	T1.R2	1	
		2.12	Sections (T&L)			
	1	W.		Total	12	
	1	1	Design for Shear,			
			Torsion and Bond:			
		3.1	Limit state analysis	T1,R2	1	
		3.1	and design of section			
	1		for shear			1
			Design of section for	n-	1	
		3.2	shear and torsion	T1,R2	1	1
		-	concept of bond,			
	CO 3: Design structures subjected to shear, bond and torsion. K3	3.3	anchorage	T1,R2	1	
			concept of			
		3.4	development length	T1,R2	1	1
		15	LS. Code provisions	T1,R2	1	1
		3.5	Design examples in			Ī
		3.6	simply supported	T1,R2	1	Chalk &Talk,
			beams, detailing.			
		3.7	Design examples in	T1,R2		
			continuous beams.		1	PPT,
Ш			detailing.			Tutorial,
		3.8	Limit state design	T1,R2	1	Active
			for service ability:			learning
			Deflection			
		-	Limit state design			
		2.0		T1.R2	1	
		2.0	for service ability	T1.R2	1	
		3.9	for service ability:	T1,R2	1	
		l.	Deflection, cracking.		1	
		3.10	Deflection, cracking. IS code provision	T1,R2		
		l.	Deflection, cracking. IS code provision Design of beams	T1,R2	1	
		l.	Deflection, cracking. IS code provision Design of beams (Design for flexure,			
		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for	T1,R2	1	
		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection)	T1,R2	1	
		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear, Checking for limiting Deflection) Design of beams	T1,R2	1	
		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of beams (Design for flexure,	T1,R2	1	
		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of beams (Design for flexure, shear. Checking for shear.	T1,R2	1	
A Company of the Comp		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of beams (Design for flexure,	T1,R2 T1,R2 T1,R2	1 1	
and the second		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of beams (Design for flexure, shear. Checking for limiting Deflection)	T1,R2	1	
And the second		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design for flexure, shear. Checking for limiting Deflection)	T1,R2 T1,R2 T1,R2 Total	1 1 12	
and the second s		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of Compression	T1,R2 T1,R2 T1,R2	1 1	
A CONTRACTOR OF THE PARTY OF TH		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of compression members: Effective	T1,R2 T1,R2 T1,R2 Total	1 1 12	
		3.10	Deflection, cracking. IS code provision Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of beams (Design for flexure, shear. Checking for limiting Deflection) Design of Compression	T1,R2 T1,R2 T1,R2 Total	1 1 12	

			loads, uniaxial bending		
IV	CO 4 : Design different type of compression	4.3	Design of short columns- under axial loads, and biaxial bending	T1,R2	1
	members and footings. K3	4.4	Design of long columns- under axial loads, uniaxial bending	T1,R2	1
		4.5	Design of long columns- under axial loads and biaxial bending	T1,R2	1
		4.6	Braced columns, Unbraced columns, IS code provisions	T1,R2	1
	le.	4.7	Footings: Different types of footings, Design of isolated and combined footings-rectangular footings subjected to axial loads	T1,R2	1
		4.8	Rectangular footings subjected to axial loads, uni-axial bending moments.	T1,R2	1
		4.9	rectangular footings subjected to axial loads, bi-axial bending moments	T1,R2	1
N.		4.10	Design of isolated and combined footings- circular footings subjected to axial loads	T1,R2	1
		4.11	Design of isolated and combined footings-circular footings subjected to axial loads, uni-axial bending moments.	T1,R2	1
		4.12	Design of isolated footings-circular footings subjected to axial loads and bi-axial	T1,R2	1

			Slabs:			
		5.1	Classification of slabs	T1,R2	1	
		5.2	design of one - way slabs	T1,R2	1	
		5.3	Design problems one way slabusing IS Coefficients	T1,R2	1	
		5.4	design of two - way slabs simply supported	T1,R2	1	
	CO 5: Design of different types of slabs and detailing.	5.5	Design of two - way slabs-simply supported and various edge conditions using IS Coefficients	T1,R2	1	
v		5.6	Design of two - way slabs-simply supported and various edge conditions using IS Coefficients	T1,R2	1	Chalk &Talk, PPT, Tutorial, Active learning
		5.7	Design of two - way slabs-simply supported and various edge conditions using IS Coefficients	T1,R2	1	
		5.8	Design problems on two way slabs	T1,R2	1	
		5.9	Design problems on two way slabs	T1,R2	1	
		5.10	Design of waist- slab staircase	T1,R2	1	
		5.11	Design problems on waist-slab staircase	T1,R2	1	
al A		5.12	IS code provisions	T1,R2	1	
				Total	12	
1		CUMU	LATIVE PROPOSED	PERIODS	60	
Tort D	.1					
Text Boo	OKS:	TITLE F	DITION, PUBLISHER, Y	FAR OF DIT	RLICAT	TON
1	S.S.Bhavikatti, 'Des publishers, 2020.	ign of RO	CC Structural elements', 5	th Edition, N	ew age i	nternational
2	A K Jain 'Limit St	ate Desig	n',7 th Edition,Nem Chanc	& Brothers	-Roorke	e, 2012
3	N. Subrahmanyian,	Design of	f Reinforced concrete Str vt Ltd, 2019	uctures',4 th I	EditionC	BS
4	S. UnnikrishnaPillaid McGraw Hill, New I	&Devdas	Menon 'Reinforced Conc	rete Structur	es',3 rd E	dition, Tata

Reference	Books: AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
S.No.	AUTHORS, BOOK TITLE, EDITION, FORDISHES, Arthus H. Nilson, David Darwin, and Chorles W. Dolar, 'Design of concrete structure and the structure of the structure
1	
2	3rd Edition, Tata McGrawffff, 2003. Park and Pauley, John Wiley and Sons, 'Reinforced Concrete Structures', John Sons, Inc.
Code Boo	ks:
S.No.	Code Book
1.	IS 456 : 2000
2,	IS 875
3.	SP: 16
Web Det	nils
1	https://nptel.ac.in/courses/105/105/105105105/

		Name	Signature with Date
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iii.	Module Coordinator	A.Venkata Krishna	Arrostoffer
iv.	Programme Coordinator	G.V.L.N.Murthy	lus

&-Principal